

5 WE/I CLAIM:

1. A method of removing a tire-forming bladder from a tire vulcanizer with a bladder removing apparatus having a bladder-lifting boom swiveled on a horizontally movable platform and a connecting member having a boom-connecting end connected to said boom

10 and a bladder connecting end comprising

- (a) moving said platform towards said bladder;
- (b) rotating said boom to place said boom connecting end of said connecting member in a centered-position over said boom;
- (c) fastening said bladder connecting end of said connecting member to said bladder;
- 15 and,
- (d) raising said boom to lift said bladder in a centered position and remove said bladder from said tire vulcanizer in a vertical direction.

2. The method of claim 1, wherein said bladder lifting boom is swiveled on said platform for swinging side to side movement in a generally horizontal direction further characterized by swinging said boom to said centered position by placing said connecting member in tension prior to lifting said bladder.

3. The method of claim 2 further characterized by said bladder lifting boom being mounted on a sleeve rotatably supported on a substantially vertical post mounted on said platform and a piston cylinder assembly being mounted between said and sleeve and said boom, characterized by communicating pressure fluid to said piston cylinder assembly for raising said boom to provide said centering of said boom connecting end of said connecting member.

4. The method of claim 1, wherein said platform is slidably mounted on a supporting frame adapted for lifting engagement with positioning means further characterized by actuating said positioning means to lift said supporting frames to a position adjacent said

5 bladder with said platform being positioned for sliding movement towards said bladder and placing said connecting member in tension to pull said movable platform towards said centered position by raising said boom.

5. The method of claim 3, wherein said piston cylinder assembly is hydraulic and further
10 characterized by communicating hydraulic fluid under pressure to said piston cylinder assembly for lifting said boom.

6. A bladder lifting apparatus for lifting a tire-forming bladder from an operating position to a detached lifted position directly over said operating position characterized by:
15 (a) a supporting frame movable into a position adjacent said operating position;
(b) a movable platform slidably mounted on said supporting frame for sliding movement toward and away from said operating position;
(c) a lifting boom having an inner end swiveled connection to said platform and an outer end extending to a position over said bladder;
20 (d) a connecting member extending from said outer end of said lifting boom to said bladder body;
(e) means to connect said connecting member to said bladder; and,
(f) means to lift said lifting boom to put said connecting member tension whereby,
25 bladder and said boom is swiveled to a position with said outer end extending toward said centered operating position, so that said bladder may be raised to said detached position directly over said operating position without any sidewise movement.

30 7. The lifting apparatus of claim 6 further characterized by said swiveled connecting comprising a substantially vertical post mounted on said platform, a sleeve rotatably mounted on said post, said lifting boom being pivotally mounted on said sleeve and a piston cylinder

5 assembly being mounted between said boom and said sleeve for raising and lowering said boom.

8. The lifting apparatus of claim 7 further characterized by a second moveable platform supported on said frame in side by side relation to said first moveable platform for raising a
10 second tire vulcanizer bladder characterized by a second lifting boom pivotally mounted on a second sleeve supported on a second substantially vertical post mounted on said second platform and a second piston cylinder assembly mounted between said second boom and said second sleeve with a second flexible connecting member extending between said outer end of second boom and said second tire vulcanizer bladder for centering and raising said second
15 tire press bladder upon raising of second boom by said second piston cylinder assembly.